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Since modifications of the disclosed embodiments incorporating the spirit and substance of the invention may occur to persons skilled in the art, the invention should be construed to include everything within the scope of the appended claims and equivalents thereof.--

IN THE CLAIMS:

Please cancel claims 11-12 presently in the application and substitute new claims 13-15 as follows:

13. A software product, comprising:

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a computer readable medium having stored thereon a computer program for implementing a method of processing a single channel audio signal to provide an audio signal having left and right channels corresponding to a virtual sound source at a given direction in space relative to a preferred position of a listener in use, the space including a forward hemisphere and a rearward hemisphere relative to said preferred position, the information in the channels including cues for perception of the direction of said single channel audio signal from said preferred position, the method including the steps of: i) providing a two channel signal having the same single channel signal in the two channels; ii) modifying the two channel signal by modifying both of the channels using one of a plurality of head response transfer functions to provide a right signal in one channel for the right

ear of a listener and a left signal in the other channel for the left ear of the listener; iii) introducing a time delay between the channels corresponding to the inter-aural time difference for a signal coming from said given direction, characterized in that the method further includes filtering the signal in both channels using high frequency (HF) cut filter means, the filter characteristics of the HF-cut filter means being settable according to the given direction of the virtual sound source.

14. An audio signal, comprising left and right channels corresponding to a virtual sound source at a given direction in space relative to a preferred position of a listener in use, the space including a forward hemisphere and a rearward hemisphere relative to said preferred position, information in the channels including cues for perception of the direction of a single channel audio signal from said preferred position, wherein said audio signal is processed from the single channel audio signal in accordance with the steps of: i) providing a two channel signal having the same single channel signal in the two channels; ii) modifying the two channel signal by modifying both of the channels using one of a plurality of head response transfer functions to provide a right signal in one channel for the right ear of a listener and a left signal in the other channel for the left ear of the listener; iii) introducing a time delay between

the channels corresponding to the inter-aural time difference for a signal coming from said given direction, characterized in that the method further includes filtering the signal in both channels using high frequency (HF) cut filter means, the filter characteristics of the HF-cut filter means being settable according to the given direction of the virtual sound source.

15. An apparatus for producing an audio signal, comprising:

a signal processor;

an HRTF filter;

an HF-cut filter;

an HF-cut filter coefficient determining circuit which determines the HF-cut filter coefficients as a function of a direction of a virtual sound source;

wherein the audio signal is proceed from a single channel audio signal to provide the audio signal having left and right channels corresponding to the virtual sound source at a given direction in space relative to a preferred position of a listener in use, the space including a forward hemisphere and a rearward hemisphere relative to the preferred position, information in the channels including cues for perception of the direction of the single channel audio signal from the preferred position;